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ABSTRACTS OF PATENTS

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Pat. 2,494,537. COLD-SETTING RESORCINOL GLUE COMPOSITION AND PROCESS OF PREPARATION, Glen E. Babcock and Allan K. Smith, patented January 17, 1950. A cold-setting glue is prepared by reacting resorcinol with formaldehyde in a molal ratio 2:1-5:4 in the presence of an acid catalyst. The pH is adjusted to 7.1-7.7 and the resin admixed with an approximately equal quantity of corn gluten. Sufficient formaldehyde is added at this point to give a final ratio of resorcinol to formaldehyde of 1:1.1-2.5. The glues are cold-setting, water-resistant and mold-resistant, and are particularly useful in making plywood.

Pat. 2,494,565. PAINT COMPOSITION FROM CATALYTICALLY CONJUGATED OILS, Arthur J. Lewis, Helen A. Moser, and John C. Cowan, patented January 17, 1950. A paint mixture is prepared with catalytically conjugated soybean oil as the principal oil vehicle. Oil conjugated by treatment in the presence of a nickel-carbon catalyst is preferred. Residual tack and after-tack are eliminated by the addition of a minor amount of an alkali metal oxide to the pigment. The patent is particularly directed to lead-base paints. Tabular data show that the soybean oil paints of the invention are in many properties equal or superior to linseed oil paints.

Pat. 2,495,706. VEGETABLE GEL, Letta I. DeVoss, Arthur C. Beckel, and Paul A. Belter, patented January 31, 1950. Comminuted soybeans are treated to remove the oil by any conventional method, such as extraction or pressing. The residual oil-free material is then washed or extracted with alcohol to remove substantially all alcohol-soluble matter. After alcohol extraction, the material is subsequently extracted with water to obtain a mixture of proteinaceous material dispersed in an aqueous solution of water solubles. The fibrous, insoluble soybean material is removed, and the aqueous dispersion forms an irreversible gel upon heating. The aqueous dispersion may be dried to obtain a solid, powdery material. This material may be dispersed in water to make up a gelable liquid. The gels possess a bland taste and may be mixed with a wide variety of food and flavor materials prior or subsequent to gelling. Such gel food compositions retain their shape indefinitely at all temperatures to which food products are normally exposed.

Pat. 2,496,297. PROCESS OF CULTURING BACTERIA, Lewis B. Lockwood and Frank H. Stodola, patented February 7, 1950. Bacteria of the genus *Pseudomonas*, family Pseudomonadacose, are cultivated in a medium containing a reducing disaccharide. The disaccharide is converted directly to the corresponding bionic acid without initially splitting the disaccharide by hydrolysis. Disaccharides, such as maltose and lactose, are converted to maltobionic acid and lactobionic acid, respectively, in approximately 80 percent yield. A 10-percent solution of the disaccharide is preferred. Fermentation under submerged aerobic conditions gives highest yields.

Pat. 2,502,472. ELECTROLYTIC PREPARATION OF CALCIUM D-ARABONATE, Charles L. Mehltretter and William Dvonch, patented April 4, 1950. Calcium D-arabonate is obtained by the oxidation of an aqueous solution of calcium 2-keto-D-gluconate by bromine. The bromine is generated in solution by electrolysis of a bromide salt. Considerably less than one equivalent of bromide is needed to oxidize one equivalent of the gluconate. Graphite electrodes are preferred, and the solution should be mechanically stirred during the oxidation. The process is carried out under slightly acidic conditions and at a temperature in the range of 5°-30° C. The electrolysis is discontinued when a minimum reduction with Fehling's solution is reached. Yields of calcium D-arabonate as high as 85 percent can be obtained by the process.

Pat. 2,502,498. LIGNOCELLULOSE PHENOL FORMALDEHYDE, AND INORGANIC FILLER MOLDING COMPOSITION, Robert V. Williamson and Thomas F. Clark, patented April 4, 1950. High-grade, general-purpose molding compounds of the phenol-formaldehyde type are prepared by using considerably less than the customary proportion of the expensive phenolic component. One of the principal ingredients of the compounds (at least 50 percent) is lignocellulose flour such as comminuted rice hulls, wheat straw, flax shives, corncobs or other agricultural residues or wood flour. Another principal ingredient (approximately 25 percent) is an inorganic extender such as precipitated chalk, diatomaceous earth, iron oxide or titanium dioxide. The remaining principal ingredient (approximately 25 percent) is phenol-formaldehyde resin. Molded articles made from these compounds are comparable in strength, appearance, and water resistance to conventional phenolics containing twice as much phenol-formaldehyde.

Pat. 2,504,962. SEPARATION OF STARCH FROM WHEAT FLOUR, Everette M. Burdick, patented April 25, 1950. Starch is separated from wheat flour, particularly granular wheat flour, by a method closely allied to the "batter process." A batter is formed by adding wheat flour to water, the water being 80-140 percent of the flour by weight. The batter is mixed for a sufficient time to hydrate the gluten and then diluted further with water to a ratio of water to flour of 3-5 to 1. The diluted batter is passed over a screen to separate the starch milk from a crude starchy-gluten-bran mass. The crude mass is then agitated and aerated in water to disperse the air in the mass and beat the starch and the bran from the gluten. The gluten separates and rises in the form of a thick frothy mass. The gluten separated by the flotation step, after washing, is quite pure and contains only a small percentage of starch.

Pat. 2,505,749. VEGETABLE OIL EXTRACTION. A. C. Beckel, P. A. Belter, and H. J. Deobald, patented May 2, 1950. Fatty oils are extracted from vegetable seeds or nut meats by the "non-distillation" method which uses a hot alcoholic solvent. The extract is cooled to below 25° C. to effect separation into two liquid phases, an oil layer and another of the supernatant solvent. This invention is an improvement on the "non-distillation" process, and involves heating locally the interface zone to a temperature at least slightly higher than the major portion of the supernatant alcoholic phase. It eliminates the problem of semi-solid waxy material which tends to collect at the interface. The solids release entrapped liquid, fall downward through the oil layer, and collect below it. The extract may be passed continuously upward through the cooling zone, alcohol being removed from the top section of the zone and oil passing downward through a zone heated to break the emulsion.

Pat. 2,510,119. PRODUCTION OF TANNIN AND SOFT-GRIT BLASTING MATERIAL FROM NUTSHELLS, Elbert C. Lathrop, patented June 6, 1950. Nut shells, such as pecan shells, are subjected to the shattering action of an impact comminution. This treatment produces relatively coarse shell fragments admixed with a light powdery product comprising the tannin-rich lining of the shell. The mixed product is separated into a light colored shell fraction and a darker colored tannin-rich fraction by pneumatic means.

Pat. 2,511,833. METHOD FOR STRIPPING SOLVENTS FROM OILS, Arthur C. Beckel and Paul A. Belter, patented June 20, 1950. Volatilizable material is vaporized from a liquid by introducing the liquid into the bottom portion of a vertical tube. A stripping gas, bubbled up through the liquid, causes the liquid to spread on the interior surface of the tube as a film. The stripping gas is introduced at a rate which causes the liquid film to rise along the surface.

Pat. 2,517,580. MILDEW RESISTANT PAINT, Arthur J. Lewis, patented August 8, 1950. A red oxide paint, suitable for use on barns and other farm buildings, is composed of soybean oil as the principal oil vehicle, a red iron oxide pigment, a drier, and a minor amount of calcium oxide. The painted coatings have good durability and color retention and are highly resistant to discoloration by mildew.

Pat. 2,517,585. N-(2-CYANOETHYL)-2-PYRROLIDONE-5-CARBOXYLIC ACID AND METHODS FOR ITS PREPARATION, Leonard L. McKinney, Eugene H. Uhing and John C. Cowan, patented August 8, 1950. The novel compound is made by acid hydrolysis of the reaction product of a salt of glutamic acid with acrylonitrile.

Pat. 2,520,913. PHENOLIC MOLDING RESINS, Thomas F. Clark, patented September 5, 1950. Phenol and formaldehyde are heated in the presence of an acid catalyst to produce a molten, thermosetting, molding material which is subsequently washed in the molten state with water and a neutralizing agent to remove water-soluble low-molecular weight polymers and to granulate the mass. The granules are washed with water and dried and subsequently mixed with saccharification lignin and minor amounts of hexamethylene tetramine and calcium hydroxide. The mixture is compounded by milling and heating. The product has improved water absorption characteristics.

Pat. 2,521,704. FIBERS FROM ZEIN, Cyril D. Evans, Chester W. Ofelt and Allan K. Smith, patented September 12, 1950. Aqueous alkaline dispersions of zein are formed in a medium having a pH of about 11 to 12.8. The dispersion is effected by an alkali metal hydroxide, and the ingredients are proportioned so as to give a viscosity of 10 to 1,000 poises. The dispersions are spun into a liquid coagulating medium containing a strong mineral acid and an organic acid. The spun fibers are then cured and dried.

Pat. 2,524,037. PROCESS FOR THE UNINTERRUPTED RECIRCULATION OF UNREFINED ALCOHOLIC FATTY OIL SOLVENT, Arthur C. Beckel, John C. Cowan and Paul A. Belter, patented October 3, 1950. Fatty oils are extracted with a hot lower alcohol solvent from vegetable materials, such as soybeans, cottonseed, other seeds, and nut meats. The hot extract is cooled to separate the oil, and the alcohol solution is recycled without further refinement to extract fresh material.

The invention relates specifically to the extraction of soybean oil from flaked soybeans that have been dried to below 3 percent moisture The process can be carried out continuously, draining solvent from the extracted flakes recovering oil from the extract, and evaporating alcohol from the drained wet flakes The system needs no alcohol bleed-off other than that entrained upon the drained flakes

Pat. 2,524,042 CURING PROLAMINE FIBERS WITH ALDEHYDE IN LIQUID ORGANIC MEDIUM, Clarence Bradford Croston Cyril D Evans Leonard L. McKinney and John C. Cowan, patented October 3 1950 Zein fibers or other shaped bodies, are given a treatment to produce an acid-stable water-resistant product by an acid-catalyzed aldehyde cure carried out at elevated temperatures in a substantially anhydrous medium

The method relates particularly to zein fibers which may or may not be previously cured by known methods. The fibers are treated by heating in a medium, such as dioxane toluene, or other hydrocarbon solvent containing a relatively strong acid and a minor proportion of an aldehyde or aldehyde-yielding agency The treatment imparts water resistance and high wet strength to the fibers

Pat. 2,527,585 WET MILLING OF GRAIN SORGHUM Richard L Slotter and Roy A. Anderson, patented October 31 1950 The outer hull is removed from grain sorghum by a pearling operation prior to wet milling the grain Removal of the colored hulls leads to an improved quality of starch and oil

Pat. 2,530,376. VACUUM DISTILLATION, Francis J Castle and Robert E. Beal, patented November 21, 1950 A vacuum still is described particularly suitable for removing volatile constituents from glyceride oils. The still consists of a heated evaporation surface supplied with a covering of inert mesh fabric to distribute the distilland over the evaporation surface and to retain residual tars and gums formed during evaporation. The fabric may be removed and cleaned when necessary

Pat. 2,532 279. HYDROGENATED FURFURALACETOFURAN, Kliem Alexander, patented December 5, 1950. Furfuralacetofuran is hydrogenated to produce derivatives varying in degree of hydrogenation from the simple saturation of the double bond in the aliphatic chain to the completely hydrogenated compound 1,3-ditetrahydrofuryl-propanol-1.